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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,868	08/22/2003	Jong-hoon Lee	1293.1857	8642

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EXAMINER
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LAMB, CHRISTOPHER RAY

ART UNIT	PAPER NUMBER
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2627

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/645,868	<b>Applicant(s)</b> LEE ET AL.	
	<b>Examiner</b> Christopher R. Lamb	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8,10-13,15,16,18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8,10-13,15,16,18 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8, 10-13, 15, 16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takasago et al. (US 4,830,290) in view of Kamiyama (US 6,341,113), and further in view of Nakane et al. (US 2002/0031069).

Regarding claim 1:

Takasago discloses a method of controlling a recording operation of an optical disc recording apparatus which records data to a recordable optical disc having a defect (column 2, lines 30-45), the method comprising:

based on a length of the defect, classifying the defect into a first category indicating that the data is normally recordable and a second category indicating that the data is not normally reproducible even though the data is normally recordable (column 3, lines 25-60: the first category is when the duration is less than  $T_1$ , the second when it is between  $T_1$  and  $T_2$ );

detecting the defect while recording the data to the recordable optical disc (column 3, lines 25-60);

determining the length of the defect and a type of the defect based on the length of the defect (column 3, lines 25-60); and

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as a result of the determining, if the defect corresponds to the first category, assuming that the data is normally recorded in a defect region and continuing recording of the data (column 3, lines 25-60: time less than  $T_1$ ), or if the defect corresponds to the second category, further recording of the data recorded in the defect region in another region (column 3, lines 25-60: time between  $T_1$  and  $T_2$ ; it is re-recorded "in an alternate sector in the same track").

Takasago does not disclose:

(A) "If the defect is detected, continuing recording of the data in the recordable disc while controlling a servo unit to hold a servo tracking by using a previous servo control value which is used before the defect occurs."

(B) conducting the further recording "without a read-after-write operation."

Regarding (A):

Kamiyama discloses: if a defect is detected, continuing recording of the data in the recordable disc while controlling a servo unit to hold a servo tracking by using a previous servo control value which is used before the defect occurs (column 1, lines 10-25).

Kamiyama discloses that this is necessary, because it is impossible to generate an appropriate tracking signal otherwise (column 1, lines 10-20).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Takasago wherein If the defect is detected, continuing recording of the data in the recordable disc while controlling a servo unit to hold a servo tracking

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by using a previous servo control value which is used before the defect occurs, as taught by Kamiyama.

The motivation would have been to generate an appropriate tracking signal, keeping the laser on-track, as taught by Kamiyama.

Regarding (B):

In Takasago, if the time is between  $T_1$  and  $T_2$ , there is further recording of the data recorded in the defect region in another region if it is deemed necessary during a read-after-write operation (column 3, lines 25-60).

Nakane discloses that when recording at a high transfer rate is required, a read-after-write operation ("verifying reproduction") should be omitted (paragraph 144).

Therefore it would have been obvious to one of ordinary skill at the time of the invention to include in Takasago in view of Kamiyama wherein the further recording is conducted without a read-after-write operation: instead, the information is automatically recorded in another area (following Takasago column 3, lines 25-60; also Nakane paragraph 118).

The motivation would have been to enable recording at a high transfer rate.

Regarding claim 2:

Takasago in view of Kamiyama, and further in view of Nakane, discloses: classifying the defect into a third category indicating that the data cannot be normally recorded and the defect causes a servo error (Takasago column 3, lines 25-60: time greater than  $T_2$ ); as a result of the determining, if the defect corresponds to the third category, stopping the recording operation (Takasago column 6, lines 40-50).

Regarding claim 3:

In Takasago in view of Kamiyama, and further in view of Nakane, the recordable optical disc is a recordable compact disc (it is clear from Takasago's description in column 1 that Takasago's disc is a recordable compact disc).

Regarding claim 4:

Takasago in view of Kamiyama, and further in view of Nakane, does not disclose that the recordable optical disc is a recordable digital video disc.

Nakane discloses recordable digital video discs (paragraphs 1-9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Takasago in view of Kamiyama, and further in view of Nakane, wherein the optical disc is a recordable digital video disc.

The motivation would have been to manage defects on such a disc, making the method more versatile.

Regarding claims 5-7:

All elements positively recited have already been identified with respect to claims 1-4.

Regarding claims 8, 10, and 11:

These are apparatus claims corresponding to method claims 1-4. Takasago in view of Kamiyama, and further in view of Nakane, discloses an apparatus to accomplish the method. All elements of this claim have been identified with respect to the earlier rejections.

Regarding claim 12:

Takasago discloses a controller (Fig. 1: 30) and thus Takasago in view of Kamiyama, and further in view of Nakane, includes a program executed by a processor to record data. All other elements of this claim have already been discussed with regards to earlier claims.

Regarding claim 13:

Most elements of this claim have already been discussed with regards to earlier claims. In Takasago in view of Kamiyama, and further in view of Nakane, the first reference length is a maximum length of the defective region where a servo status is stable and data is readable without any additional operation of the optical disc recording apparatus after data is recorded (the  $T_1$  threshold is one where the off-track is not considered to be severe enough to require writing in a different region: column 3, lines 1-60).

Regarding claim 15:

In Takasago in view of Kamiyama, and further in view of Nakane, the second reference length is a maximum length of the defective region where a servo status is stable, but errors occur when the data is read after being recorded (the servo is not considered "off-track" to the point where the recording operation has to be stopped, but the data must be rewritten in an alternate sector on the track: column 3, lines 1-60).

Regarding claim 16:

Most elements of this claim have been discussed with regards to earlier rejections. Regarding "wherein the reference length is a maximum length of the defective region where a servo status is stable and data is readable without any

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additional operation of the optical disc recording apparatus after data is recorded," see Takasago column 3, lines 30-60: if "the reference length is set shorter than a time necessary to cause off-track," it is the maximum length or shorter, meaning that the claim falls within the range disclosed by Takasago, and for "and if the defective region is longer than the reference length, recording the data in another region of the recordable optical disc without a read-after-write operation," recording without a read-after-write operation is taught by Nakane as discussed above.

Regarding claims 18 and 19:

All elements positively recited have been discussed with regards to earlier claims. No further elaboration is necessary.

### ***Response to Arguments***

3. Applicant's arguments filed September 11<sup>th</sup>, 2007 have been fully considered but they are not persuasive.

Applicant refers to two limitations of independent claim 1. First, "if the defect corresponds to the second category, further recording of the data recorded in the defect region in another region without a read-after-write operation," and second that the second category "indicating that the data is not normally reproducible even though the data is normally recordable."

Applicant then states that Takasago does not teach these features, and that the Examiner's rejection relied upon Nakane to meet these limitations. Applicant then argues that the conditions Nakane discloses do not correspond to the conditions of these claim limitations.



However, Applicant's summary of the rejection is not correct. Of the claim limitations cited by Applicant, Takasago discloses the second category, "indicating that the data is not normally reproducible even though the data is normally recordable" (column 3, lines 25-60: the second category is when the duration is between  $T_1$  and  $T_2$ ). Takasago also discloses "if the defect corresponds to the second category, further recording of the data recorded in the defect region in another region" (column 3, lines 25-60).

The only element among the claim limitations cited by Applicant that Takasago does not disclose is further recording "without a read-after-write operation." Nakane is relied on only to teach this element: further recording without a read-after-write operation.

Nakane definitely teaches that when continuously recording at a high transfer rate is required, "verifying reproduction is often omitted" (paragraph 144). Nakane's "verifying reproduction" is the same as the read-after-write operation of the claims: therefore Nakane teaches that under these circumstances the read-after-write operation should be omitted.

The rest of paragraph 144 of Nakane is directed to how to determine whether a defect occurs. Nakane teaches that as long as a defect can be corrected or concealed, it should not be considered a defect – thus "the criteria...are set at a less strict level." This apparently is where Applicant's argument is directed.

This part of Nakane has not been relied upon in the rejection, and therefore is irrelevant. The defect criteria set by Takasago have been left unchanged in the

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rejection. However, even if this part of Nakane had been relied upon, the combination would still meet the claim. Nakane is simply stating that if a defect can be concealed or corrected it should be ignored in order to keep up the high transfer rate. However, if it cannot be concealed or corrected, it still must be replaced: this exactly corresponds to Applicant's "the data is not normally reproducible" category.

### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (571) 272-5264. The examiner can normally be reached on 9:00 AM to 6:30 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 10/17/07

/William Korzuch/  
SPE, Art Unit 2627